1. //Create a program that declares and initializes all primitive data types in Java and prints their default and assigned values.

class Default\_Value

{

public static void main(String args[])

{

// Declaring variables with default values

byte b = 0;

short s = 0;

int i = 0;

long l = 0L;

float f = 0.0f;

double d = 0.0;

char c = '\u0000'; // Default: null character

boolean B = false;

System.out.println("Default values of Primitive Data Types ");

// Printing default values

System.out.println("byte: " + b);

System.out.println("short: " + s);

System.out.println("int: " + i);

System.out.println("long: " + l);

System.out.println("float: " + f);

System.out.println("double: " + d);

System.out.println("char: '" + c + "'");

System.out.println("boolean: " + B);

System.out.println(" ");

System.out.println("Assigning values of Primitive Data Types ");

// Assigning new values

b = 45;

s = 12;

i = 8878;

l = 548782L;

f = 3.8f;

d = 785.479821;

c = 'H';

B = true;

// Printing assigned values

System.out.println("Assigned Values:");

System.out.println("byte: " + b);

System.out.println("short: " + s);

System.out.println("int: " + i);

System.out.println("long: " + l);

System.out.println("float: " + f);

System.out.println("double: " + d);

System.out.println("char: '" + c + "'");

System.out.println("boolean: " + B);

}

}

---------------------------------------------------------------------------------------------------------------------

1. Write a program to convert an int value to double automatically and display both values

class Automatic\_Conversion

{

public static void main(String args[])

{

int a=10845;

System.out.println("The Int Value is : "+a);

double d=a;

System.out.println("After conversion the Value is : "+d);

}

}

---------------------------------------------------------------------------------------------------------------------

1. //Write a program to convert a double value to int using typecasting and explain the data loss

class Automatic\_Conversion1

{

public static void main(String args[])

{

double d=10845.857;

System.out.println("The Int Value is : "+d);

int a=(int)d;

System.out.println("After conversion the Value is : "+a);

}

}

---------------------------------------------------------------------------------------------------------------------

1. //Write a program to calculate the average of three int numbers using typecasting to display the result in double.

class Avg\_TypeCast

{

public static void main(String args[])

{

int a=10, b=20, c=30;

double d = (a+b+c)/3;

System.out.println("Average of three int numbers using typecasting is : "+d);

}

}

---------------------------------------------------------------------------------------------------------------------

1. //Write a program to demonstrate binary, octal, hexadecimal, and floating-point literals in Java

class Literal

{

public static void main(String args[])

{

int a=0b1010;

System.out.println("binary conversion of (0b1010) is : "+a);

int b=0765;

System.out.println("Octal conversion of (0765) is : "+b);

int c=0x1010;

System.out.println("hexadecimal conversion of (0x1010) is : "+c);

float d=123.456f;

System.out.println("floating point conversion of (123.456) is : "+d);

double e=123.456;

System.out.println("floating point conversion of (123.456) is : "+e);

double f=1e4;

System.out.println("floating point conversion of (1e4) is : "+f);

}

}

---------------------------------------------------------------------------------------------------------------------

1. //Write a program to display character and string literals along with their ASCII values

class Literal1

{

public static void main(String args[])

{

char ch='a';

char ch1='A';

char ch3=' ';

System.out.println("ASCII value of "+ch+" is: " +(int)ch);

System.out.println("ASCII value of "+ch1+" is: " +(int)ch1);

System.out.println("ASCII value of "+ch3+" is: " +(int)ch3);

System.out.println("");

String s1="Hii";

System.out.println("String Literal: "+s1);

for(int i=0;i<s1.length();i++)

{

char c=s1.charAt(i);

System.out.println("The ASCII Values of "+c+" string is : "+(int)c);

}

}

}

---------------------------------------------------------------------------------------------------------------------

1. //Write a program that uses boolean literals to control program flow in an if-else statement.

class Boolean

{

public static void main(String args[])

{

boolean b=true;

boolean c=false;

if(true)

{

System.out.println("This block executed when statement is true "+b);

}

if(false)

{

System.out.println("This block executed when statement is false "+c);

}

else

{

System.out.println("This block executes instead of the false block");

}

}

}

---------------------------------------------------------------------------------------------------------------------

1. //Write a program to perform addition, subtraction, multiplication, division, and modulus operations on two integer numbers and display the results

class Arithmetic

{

public static void main(String args[])

{

int a=4;

int b=2;

System.out.println("The Addition of " + a + " and " + b + " is: "+(a+b));

System.out.println("The Substraction of " + a + " and " + b + " is: "+(a-b));

System.out.println("The Multiplication of " + a + " and " + b + " is: "+(a\*b));

System.out.println("The Division of " + a + " and " + b + " is: "+(a/b));

System.out.println("The Modulus of " + a + " and " + b + " is: "+(a%b));

}

}

---------------------------------------------------------------------------------------------------------------------

1. //Write a program to compare two integers using all relational operators (==, !=, >, <, >=, <=) and display the results

class Relational

{

public static void main(String args[])

{

int a=4;

int b=2;

System.out.println(a + " == " + b + " : " + (a == b));

System.out.println(a + " != " + b + " : " + (a != b));

System.out.println(a + " > " + b + " : " + (a > b));

System.out.println(a + " < " + b + " : " + (a < b));

System.out.println(a + " >= " + b + " : " + (a >= b));

System.out.println(a + " <= " + b + " : " + (a <= b));

}

}

---------------------------------------------------------------------------------------------------------------------

1. //Write a program to demonstrate the use of assignment operators (=, +=, -=, \*=, /=, %=) on two integers

class Assignment

{

public static void main(String args[])

{

int a=4;

int b=2;

System.out.println("a= "+a+ " b= "+b);

System.out.println(" ");

System.out.println("a = b : " + (a = b));

System.out.println("a += b : " + (a += b));

System.out.println("a -= b : " + (a -= b));

System.out.println("a \*= b : " + (a \*= b));

System.out.println("a /= b : " + (a /= b));

System.out.println("a %= b : " + (a %= b));

}

}

---------------------------------------------------------------------------------------------------------------------

1. //Write a program to check if a number is positive and even using logical operators (&&, ||, !)

class Logical

{

public static void main(String[] args)

{

int num=4;

if (num>0 && num%2 == 0)

{

System.out.println(num + " is positive and even.");

}

else if (num>0 && num%2 != 0)

{

System.out.println(num + " is positive but not even.");

}

else if (num<0 || num == 0)

{

System.out.println(num + " is not positive.");

}

if (!(num>0))

{

System.out.println("The number is not positive (using NOT operator).");

}

}

}